

STATEMENT OF BASIS

as required by LAC 33:IX.3109 for LPDES facilities, for draft Louisiana Pollutant Discharge Elimination System Permit No. LA0102750; AI 41194; PER20080002 to discharge to waters of the State of Louisiana as per LAC 33:IX.2311.

The permitting authority for the Louisiana Pollutant Discharge Elimination System (LPDES) is:

Louisiana Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

I. **THE APPLICANT IS:** CWI-White Oaks Landfill, LLC
White Oaks Landfill
P.O. Box 13355
Monroe, LA 71213

II. **PREPARED BY:** Angela Marse

DATE PREPARED: December 14, 2009

III. **PERMIT ACTION:** reissue LPDES permit LA0102750, AI41194

LPDES application received: October 2, 2008

LPDES permit issued: April 1, 2004

LPDES permit expired: March 31, 2009

IV. FACILITY INFORMATION:

A. The application is for the discharge of treated leachate, washwater, contact stormwater, treated sanitary wastewater, and non-contact stormwater from a non-hazardous solid waste landfill serving primarily Ouachita Parish and northeast Louisiana.

B. The facility is located at 588 Meadowlark Lane, near Millhaven Road, between I-20 and Kansas City Southern Railroad in Monroe, Ouachita Parish.

C. The treatment for leachate and contact stormwater from the Type I & II (industrial and municipal) non-hazardous landfill section consists of an equalization basin, a biological reactor and a secondary clarifier. Disinfection is by chlorination. Sanitary wastewater is treated by an extended aeration mechanical plant approved by La. Department of Health and Hospitals. Treatment for stormwater from the Type III (construction and demolition debris) landfill section consists of sedimentation. Non-contact stormwater is passed through a vegetated swale perimeter drainage system before discharge.

D. Outfall 001

Discharge Location: Latitude 32°29'36" North
Longitude 91°58'25" West

Description: landfill wastewater from the containment of Type III construction and demolition waste

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Expected flow: 0.015 MGD

Type of Flow Measurement which the facility is currently using: measured staff gage and area of the pond

Outfall 002

Discharge Location: Latitude 32°29'40" North
Longitude 91°58'45" West

Description: landfill wastewater from the containment of Type III construction and demolition waste

Expected flow: 0.019 MGD

Type of Flow Measurement which the facility is currently using: measured staff gage and area of the pond

Outfall 003

Discharge Location: Latitude 32°29'33" North
Longitude 91°58'30" West

Description: treated sanitary wastewater

Expected flow: 0.0005 MGD

Type of Flow Measurement which the facility is currently using: estimated based on employees and Dept. of Health and Hospital standards

Outfall 004

Discharge Location: Latitude 32°29'18" North
Longitude 91°58'46" West

Description: landfill wastewater (contact stormwater, washwater, and leachate) from the containment of Type I/II (non-hazardous municipal and industrial waste)

Expected flow: 0.041 MGD

Type of Flow Measurement which the facility is currently using: flow meter

Outfall 005

Discharge Location: Latitude 32°29'15" North
Longitude 91°58'14" West

Description: non-contact stormwater

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Expected flow: 10.6 MGD*

Type of Flow Measurement which the facility is currently using: engineering calculation based on area and rainfall

Outfall 006

Discharge Location: Latitude 32°29'13" North
Longitude 91°57'49" West

Description: non-contact stormwater

Expected flow: 9.6 MGD*

Type of Flow Measurement which the facility is currently using: engineering calculation based on area and rainfall

*varies with rainfall

V.

RECEIVING WATERS:

The discharge is into an unnamed ditch, thence into a ditch along Interstate Highway 20, thence into Gourd Bayou in segment 080904 of the Ouachita River Basin.

The unnamed ditch and Gourd Bayou can expect to be dry during critical conditions. The **critical low flow** (7Q10) is 0.1cfs. The **hardness value** is 46.2 mg/l and the **fifteenth percentile value for TSS** is 15.9 mg/l.

The designated uses and degree of support for Segment 080904 of the Ouachita River Basin are as indicated in the table below^{1/}:

Overall Degree of Support for Segment	Degree of Support of Each Use						
	Primary Contact Recreation	Secondary Contact Recreation	Propagation of Fish & Wildlife	Outstanding Natural Resource Water	Drinking Water Supply	Shell fish Propagation	Agriculture
Partial	Full	Full	Not Supported	N/A	N/A	N/A	N/A

^{1/} The designated uses and degree of support for Segment 080904 of the Ouachita River Basin are as indicated in LAC 33:IX.1123.C.3, Table (3) and the 2004 Water Quality Management Plan, Water Quality Inventory Integrated Report, Appendix A, respectively.

Section 303 (d) of the Clean Water Act as amended by the Water Quality Act of 1987, and EPA's regulations at 40 CFR 130 require that each state identify those waters within its boundaries not meeting water quality standards. The Clean Water Act further requires states to implement plans to address impairments. LDEQ is developing Total Maximum Daily Loadings Studies (TMDLs) to address impaired

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waterbodies. Segment 080904 of the Ouachita Basin is on the 2006 Integrated 303(d) List of Impaired Waterbodies. The suspected causes of impairment are dioxin, total suspended solids (TSS), and turbidity. Sources of the impairment are attributed to industrial point sources and unknown sources. The subsegment was previously listed as impaired for organic enrichment/low DO, nutrients, priority pollutants, suspended solids, turbidity, and phosphorus. TMDLs have been developed to address impairments and are discussed below.

Bayou Lafourche TMDLs for Dissolved Oxygen and Nutrients. (2002) The collective WLA for minor point sources is 178lb/day for CBOD and 626 lb/day for ammonia. White Oaks Landfill discharges landfill wastewater from three outfalls with a combined total volume of approximately 0.075 MGD. However, it is important to note that the facility has an intermittent discharge and typically discharges during non-critical conditions (storm-water events). Given the intermittent nature of the discharge and the stormwater component of the discharge, the limits are not restricted by this TMDL. In addition, for facilities under 100,000 GPD concentration limits are used in accordance with LAC 33:IX.2709.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement. Federal regulations also express limits in terms of concentration.

The Dioxin TMDL for Tisdale Brake, Staulkinghead Creek, Little Bayou Boeuf, Wham Brake, and Bayou Lafourche for Subsegments 080912 and 080904. (2002) International Paper is the only known source of dioxin in the watershed. The TMDL included a wasteload allocation for International Paper and margin of safety. International Paper changed bleaching technologies in 1994 to comply with Best Achievable Technologies. Dioxin concentrations are expected to decline as a result of natural attenuation

A TMDL was done for TSS, Turbidity, and Siltation for 13 subsegments in the Ouachita River Basin. (May, 2002) Target load estimates for TSS were developed from relationships between turbidity and TSS measurements. According to this TMDL, point sources do not represent a significant source of TSS. The permit contains effluent limits for TSS and narrative requirements prohibiting the discharge of floating solids.

Although TMDLs did not recommend load reductions from the facility; dioxin, TSS, turbidity, BOD₅, and ammonia are limited or monitored as part of the permit. In addition, the Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water body based upon additional TMDLs and/or water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDL's for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

VI. ENDANGERED SPECIES:

The receiving waterbody, Subsegment 080904 of the Ouachita River Basin, is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U. S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

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VII. HISTORIC SITES:

An expansion of the facility has been approved by the Solid Waste Division. In accordance with the 'Memorandum of Understanding for the Protection of Historic Places in Louisiana Regarding LPDES Permits', consultation with the Louisiana State Historic Preservation Officer (SHPO) is required. The response dated October 20, 2008 indicated no known archaeological sites or historic properties will be affected by the facility.

VIII. PUBLIC NOTICE:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List

For additional information, contact:

Mrs. Angela Marse

Water Permits Division

Department of Environmental Quality

Office of Environmental Services

P. O. Box 4313

Baton Rouge, Louisiana 70821-4313

IX. PROPOSED FINAL PERMIT LIMITS:**OUTFALL 001 and 002**

Except for TSS, effluent limits for outfall 001 and 002 are the same as the previous permit. EPA has promulgated guidelines for discharges of landfill wastewater. These guidelines are applicable to all landfills that discharge directly to receiving waters. For non-hazardous landfills, the wastewater treatment technologies that EPA used as the basis for the effluent limitations included equalization, activated sludge, biological treatment, and multimedia filtration.

A compliance review of DMRs for the previous two years indicated outfall 001 and 002 have not discharged. They are designated for the discharge of landfill wastewater associated with the operation of a Type III Construction and Demolition Debris Landfill. These cells are reserved for the disposal of construction and demolition waste only. Construction and demolition debris includes non-hazardous waste generally considered not water soluble, including but not limited to metal, concrete, brick, asphalt, roofing materials or lumber. Wastewater from these cells will be treated in sedimentation ponds. Effluent limitations for outfalls 001 and 002 are based on EPA's Effluent Guidelines at 40 CFR Part 445 and LDEQ General Permit LAG780000 for Construction/Demolition Debris and Woodwaste Landfills, the Multi-Sector General Permit, and the previous permit. The permittee may request a compliance schedule to comply with more stringent TSS effluent limits.

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Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg.	Daily Max.	Basis
BOD ₅	30 mg/l	45 mg/l	Previous permit limit and permit limits for similar effluents/facilities.
TSS	27 mg/l	88 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445. LAG780000 issued 10/1/07.
Oil & grease	---	15 mg/l	Previous permit limit and Multi Sector General Permit-Sector L (reissued May 1, 2006).
TOC	---	50 mg/l	Previous permit limit and Multi Sector General Permit-Sector L (reissued May 1, 2006).
Ammonia-Nitrogen	4.9 mg/l	10 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445. LAG780000 issued 10/1/07.
Alpha Terpineol	0.016 mg/l	0.033 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445. LAG780000 issued 10/1/07.
p-cresol	0.014 mg/l	0.025 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445. LAG780000 issued 10/1/07.
Benzoic Acid	0.071 mg/l	0.12 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445. LAG780000 issued 10/1/07.
Phenol	0.015 mg/l	0.026 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445. LAG780000 issued 10/1/07.
Zinc	0.11 mg/l	0.2 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445. LAG780000 issued 10/1/07.

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Other Effluent Limitations:**1) pH**

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time. (Limits as established through BPJ considering BCT for similar waste streams in accordance with LAC 33:IX.5905.C.)

2) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

OUTFALL 003**Sanitary**

The facility has experienced several violations at outfall 003. As a solution, the facility plans to install a holding tank with an indicator light indicating when the tank is approaching capacity. The tank will be pumped out periodically by a sewage sludge contractor and the contents will be solidified for disposal in the Type I/II landfill cells. Effluent limits for outfall 003 are the same as the previous permit. The facility utilizes an extended aeration mechanical plant for the treatment of sanitary wastewater. Effluent limits are based on the Class I Sanitary General Permit for flows under 5,000GPD.

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg.	Weekly Avg.	Basis
BOD ₅	---	45 mg/l	Class I Sanitary General Permit issued November 8, 2007.
TSS	---	45 mg/l	Class I Sanitary General Permit issued November 8, 2007.

Other Effluent Limitations:**1) Fecal Coliform**

The discharge from this facility is into a water body which has a designated use of Primary Contact Recreation. According to LAC 33:IX.1113.C.5., the fecal coliform standards for this water body are 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Daily Maximum) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgement in order to ensure that the water body standards are not exceeded, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

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2) pH

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time. (Limits as established through BPJ considering BCT for similar waste streams in accordance with LAC 33:IX.5905.C.)

3) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

OUTFALL 004**Treated landfill wastewater (including leachate, contact stormwater, washwater)**

Outfall 004 is designated for the discharge of treated landfill wastewater consisting of leachate from Type I/II (municipal and solid non-hazardous waste) cells, contact stormwater, and washwater from on-site equipment. Washwater from waste trucks is solidified and disposed of in the Type I/II landfill cells.

TSS limits have changed from the previous permit. EPA has promulgated guidelines for discharges of landfill wastewater. These guidelines are applicable to all landfills that discharge directly to receiving waters. For non-hazardous landfills, the wastewater treatment technologies that EPA used as the basis for the effluent limitations included equalization, activated sludge, biological treatment, and multimedia filtration. The permittee may request a compliance schedule to comply with more stringent TSS effluent limits.

Wastewater from these cells will be treated in equalization basin, a biological reactor, and a secondary clarifier. Effluent limitations for outfall 004 are based on EPA's Effluent Guidelines at 40 CFR Part 445, water quality criteria, the Multi-Sector General Permit, and the previous permit.

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

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Effluent Characteristic	Monthly Avg.	Weekly Avg.	Basis
BOD ₅	30 mg/l	45 mg/l	Previous permit limit and permit limits for similar effluents/facilities.
TSS	27 mg/l	88 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445.
Oil & grease	---	15 mg/l	Previous permit limit and Multi Sector General Permit-Sector L (reissued May 1, 2006).
TOC	---	50 mg/l	Previous permit limit and Multi Sector General Permit-Sector L (reissued May 1, 2006).
Ammonia-Nitrogen	4.9 mg/l	10 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445.
Chlorides	---	250 mg/l	LAC 33:IX.1113.C.2 and best professional judgment based on previously issued permits for similar facilities/effluents.
Sulfates	---	250 mg/l	LAC 33:IX.1113.C.2 and best professional judgment based on previously issued permits for similar facilities/effluents.
Alpha Terpineol	0.016 mg/l	0.033 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445.
Benzoic Acid	0.071 mg/l	0.12 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445.
p-cresol	0.014 mg/l	0.025 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445.
Phenol	0.015 mg/l	0.026 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445.
Zinc	0.11 mg/l	0.2 mg/l	Effluent Limitations Guidelines Pretreatment Standards, and New Source Performance Standards for Landfills Point Source Category at 40 CFR Part 445.

Other Effluent Limitations:

1) Fecal Coliform

The discharge from this facility is into a water body which has a designated use of Primary Contact Recreation. According to LAC 33:IX.1113.C.5., the fecal coliform standards for this water body are 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Daily Maximum) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgement in order to ensure that the water body standards are not exceeded, and due to the fact that existing facilities

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have demonstrated an ability to comply with these limitations using present available technology.

2) pH

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time. (Limits as established through BPJ considering BCT for similar waste streams in accordance with LAC 33:IX.5905.C.)

3) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

4) Priority Pollutant Scan

The treatment facility will be treating leachate and contact stormwater. Studies have shown the leachate generated at municipal solid waste landfills can be highly concentrated and variable, and may include the presence of priority pollutants. Contributing to this variability may be the presence of household hazardous waste in the municipal solid waste stream (EPA, 1987). Pollutants which may be found in leachate include volatile organic compounds, metals, and pesticides.

This Office has established a list of priority pollutants with threshold limits intended as action levels. Should a substance exceed the level of the established concentration, the Department is to be notified, in writing, within five (5) days of exceedance and White Oak Landfill shall institute a study to determine the source of the substance. Within sixty (60) days of the written notification the permittee shall submit a written account of the nature of the study, the study results, and measures being taken to secure abatement.

1. **Draft Threshold Limits** – The draft threshold limits are derived from either technology-based effluent limits or State Water Quality Standards and requirements. The most stringent of these limits is contained in the permit. Technology-based effluent limitations are based on the applicable effluent limitations guidelines, on Best Professional Judgment (BPJ) in the absence of applicable guidelines, or on a combination of these two methods. Currently, there are guidelines for the treatment of leachate from a municipal solid waste landfill and they have been included in the permit in addition to these threshold values. This office intends to employ technology-based effluent limitations taken from previously issued BPJ based water discharge permits for municipal solid waste landfills and other land disposal facilities. Each of the guideline regulations were accompanied by a development document, which provided the support for the final guideline. A water quality screen was performed using stream characteristics for the Gourd Bayou. This screen was used to establish water quality based limits. (See Appendix A-1.)

2. Derivation of Threshold Limits

LDEQ/EPA Technology-Based Limits – In the early 1980's the LDEQ and EPA developed effluent limitations for all of the priority pollutants contained in the EPA 2C application for land disposal facilities. Although the limitations were technology-based and derived prior to formal State water quality criteria, water quality considerations played a significant role in the development of the limits.

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The threshold limits established for metals and pesticides are water quality based in accordance with the state water quality criteria (Appendix A-1). Metals for which state criteria have not been promulgated; threshold limits have been established using technology-based effluent limits taken from water discharge permits previously issued to municipal solid waste landfills and other land disposal facilities. In accordance with the water quality standards, there may be no discharge of PCBs.

In July, 2009 CWI detected concentrations of cyanide above the threshold limit. Since July, CWI has serviced the aerator in the equalization basin, upgraded the control panel servicing the sludge and scum recirculation system of the clarifier, and introduced a carbon-reducing bacteria culture to the treatment system. Samples collected in the third quarter of 2009 indicated the concentration of cyanide had fallen to 39.5 ug/l. It appears the abatement techniques are working and CWI will continue to treat wastewater until cyanide is below threshold limits.

Chemical	DEQ/EPA Daily Max. ug/l	WQBL Daily Max. ug/l	Threshold Value ug/l	MQL Required ug/l
METALS, CYANIDE, AND TOTAL PHENOLS				
Total Antimony	600		600	60
Total Arsenic	100	788	100	10
Total Beryllium	100		100	5
Total Cadmium	100	9.4	9.4	1
Chromium III	100	1705	100	10
Chromium VI	100	18	18	10
Total Copper	500	32	32	10
Total Cyanide	100	23	23	20
Total Lead	150	27	27	5
Total Mercury	10		0.1	0.2
Total Nickel (freshwater)	500	906	500	40
Total Selenium	100		100	5
Total Silver	100		100	2
Total Thallium	100		100	10
Total Phenols	50	265	50	5
VOLATILE COMPOUNDS				
Acrolein	100		100	50
Acrylonitrile	100		100	50
Benzene	100	498	100	10
Bromodichloromethane	100	275	100	10
Bromoform	100	1384	100	10
Carbon Tetrachloride	100	48	48	10
Chlorobenzene	100		100	50
Chloroethane	100		100	10
2-Chloroethyl vinyl ether	100		100	50
Chloroform	100	3329	100	10
Dibromochloromethane	100	203	100	10
1,1-Dichloroethane	100		100	10

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1,2-Dichloroethane	100	271	100	10
1,1-Dichloroethylene (1,1-Dichloroethene)	100	23	23	10
1,2-Dichloropropane	100		100	10
1,3-Dichloropropene (1,3-Dichloropropylene)	100	698	100	10
Ethylbenzene	100	3686	100	10
Methyl Bromide (Bromomethane)	100		100	50
Methyl Chloride (Chloromethane)	100	63364	100	50
Methylene Chloride	100	3471	100	20
1,1,2,2,-Tetra-chloroethane	100	72	72	10
Tetrachloroethylene	100	100	100	10
1,2- <i>trans</i> -Dichloroethylene	100		100	10
Toluene	100	1463	100	
1,2- <i>trans</i> -Dichloroethylene (1,2-dichloroethene)	100		100	10
1,1,1-Trichloroethane	100	6082	100	10
1,1,2-Trichloroethane	100	275	100	10
Trichloroethylene (Trichloroethene)	100	838	100	10
Vinyl Chloride	100	1428	100	10
ACID COMPOUNDS				
2-Chlorophenol (<i>o</i> -Chlorophenol)	100	297	100	10
2,4-Dichlorophenol	100	233	100	10
2,4-Dimethylphenol	100		100	10
2,4-Dinitrophenol	100		100	50
4,6-Dinitro- <i>o</i> -Cresol (4,6-Dinitro- <i>o</i> -phenol) (4,6-Dinitro-2-methyl phenol)	100		100	50
2-Nitrophenol	100		100	20
4-Nitrophenol	100		100	50
<i>p</i> -Chloro- <i>m</i> -Cresol	100		100	
Pentachlorophenol	100		100	50
Phenol	100		100	10
2,4,6-Trichlorophenol	100		100	10
PESTICIDES				
Aldrin	10	0.016	0.016	0.05
Chlordane	10	0.008	0.008	0.2
DDD	10	0.0108	0.0108	0.1
DDE	10	0.008	0.008	0.1
DDT	10	0.004	0.004	0.1
Dieldrin	10	0.002	0.002	0.1
Endosulfan	10	0.24	0.24	0.1
Endosulfan	10	0.24	0.24	

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Total Endosulfan		0.48	0.48	0.1
Endosulfan sulfate	10		10	0.1
Endrin	5	0.099	0.099	0.1
Endrin aldehyde	10		10	0.1
Heptachlor	10	0.003	0.003	0.05
Heptachlor Epoxide	10		10	0.05
Hexachlorocyclohexane - (BHC-)	10		10	0.05
Hexachlorocyclohexane - (BHC-)	10		10	0.05
Hexachlorocyclohexane - (BHC-)	10		10	0.05
Hexachlorocyclohexane - (Lindane)	10	0.892	0.892	0.05
Total PCB's	No discharge			1.0
Toxaphene	10	0.0008	0.0008	5.0
BASE/NEUTRAL COMPOUNDS				
Acenaphthene	100		100	10
Acenaphthylene	100		100	10
Anthracene	100		100	10
Benzidene	100	0.007	0.007	50
Benzo(a)anthracene	100		100	10
3,4-Benzofluoranthene (Benzo(b)fluoranthene)	100		100	10
Benzo(k)fluoranthene	100		100	10
Benzo(a)pyrene	100		100	10
Benzo(ghi)perylene	100		100	10
Benzyl butyl Phthalate (Butyl benzyl Phthalate)	100		100	10
Bis(2-chloroethyl)ether	100		100	10
Bis(2-chloroethoxy) methane	100		100	10
Bis(2-ethylhexyl) Phthalate	100		100	10
Bis(2-chloroisopropyl) ether	100		100	10
4-Bromophenyl phenyl ether	100		100	10
2-Chloronaphthalene	100		100	10
4-Chlorophenyl phenyl ether	100		100	10
Chrysene	100		100	10
Dibenzo (a,h) anthracene	100		100	20
Di-n-Butyl Phthalate	100		100	10
1,2-Dichlorobenzene	100		100	10
1,3-Dichlorobenzene	100		100	10
1,4-Dichlorobenzene {p-Dichlorobenzidine}	100		100	10
3,3-Dichlorobenzidine	100		100	50
Diethyl Phthalate	100		100	10
Dimethyl Phthalate	100		100	10
2,6-Dinitrotoluene	100		100	10
2,4-Dinitrotoluene	100		100	10
Di-n-octyl Phthalate	100		100	10

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1,2-Diphenylhydrazine	100		100	20
Fluoranthene	100		100	10
Fluorene	100		100	10
Hexachlorobenzene	100	0.0099	0.0099	10
Hexachlorobutadiene	100	4.3	4.3	10
Hexachlorocyclopentadiene	100		100	10
Hexachloroethane	100		100	20
Ideno (1,2,3-cd)pyrene	100		100	20
Isophorone	100		100	10
Naphthalene	100		100	10
Nitrobenzene	100		100	10
N-nitrosodimethylamine	100		100	50
N-nitrosodiphenylamine	100		100	20
N-nitrosodi-n-propylamine	100		100	20
Phenanthrene	100		100	10
Pyrene	100		100	10
1,2,4-Trichlorobenzene	100		100	10

Chronic Value taken from the Water Quality Criteria Summary

Total Chromium has been removed from State Water Quality Standards and replaced with criteria for Chromium III and Chromium VI, reference to Total Chromium has been removed from the PPS tables.

A number of the threshold limitations established from the criteria are below EPA established minimum quantification levels (MQL). The MQL is accepted as the lowest concentration at which a substance can be quantitatively measured. Where the permit limits are below the MQL the following is noted in the permit:

If any individual analytical test result is less than the minimum quantification level (MQL) listed above, a value of zero(0) may be used as the test result for those parameters for the Discharge Monitoring Report (DMR) calculations and reporting requirements.

5) Toxicity Characteristics

Based on information contained in the permit application, LDEQ has determined there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream in violation of Section 101(a)(3) of the Clean Water Act. The State has established a narrative criteria which, in part, states that "No substances shall be present in the waters of the State or the sediments underlying said waters in quantities alone or in combination will be toxic to human, plant, or animal life..." (LAC 33:IX.1113.B.5) Testing since the issuance of the previous permit has demonstrated 1 sub-lethal test failure *Ceriodaphnia dubia*. However, there is no data on file before the second quarter of 2008. Freshwater chronic biomonitoring is established in the proposed permit to meet narrative criteria which, in part, states that "No substances shall be present in the waters of the State or the sediments underlying said waters in quantities alone or in combination will be toxic to human, plant, or animal life ..." (LAC 33:IX.1113.B.5). Since limited data was available from the previous permit cycle, no frequency reduction will be available during this permit cycle.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates the effects of synergism of the effluent components and receiving stream

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water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. LAC33:IX.1121.B.3. provides for the use of biomonitoring to monitor the effluent for protection of State waters. The biomonitoring procedures stipulated as a condition of this permit are as follows:

The permittee shall submit the results of any biomonitoring testing performed in accordance with the LPDES Permit No. LA0102750, Part II, Section E for the organisms indicated below.

TOXICITY TESTS**FREQUENCY**

Chronic static renewal 7-day survival & reproduction test
using Ceriodaphnia dubia (Method 1002.0) 1/quarter

Chronic static renewal 7-day survival & growth test
using fathead minnow (Pimephales promelas) (Method 1000.0) 1/quarter

This frequency is based on recommendation by LDEQ Biomonitoring personnel (see attached recommendation), the receiving stream, and the facility's previous biomonitoring test results.

Dilution Series – The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in toxicity tests. These additional concentrations shall be 16%, 22%, 29%, 39%, and 52%. The critical biomonitoring dilution is defined as 39% effluent. The critical biomonitoring dilution is calculated in Appendix A-1 of this fact sheet. Results of all dilutions shall be documented in a full report according to the test method publication mentioned in **Part II Section E** under Whole Effluent Toxicity. This full report shall be submitted to the Office of Environmental Compliance as contained in the Reporting Paragraph located in **Part II Section E** of the permit.

The permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or waterbody. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.2903. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

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OUTFALL 005 and 006**Non-contact Stormwater**

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg.	Weekly Avg.	Basis
Oil and Grease	---	15 mg/l	Multi-Sector General Permit Sector L issued May 1, 2006
TOC	---	50 mg/l	Multi-Sector General Permit Sector L issued May 1, 2006

Other Effluent Limitations:**1) pH**

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time. (Limits as established through BPJ considering BCT for similar waste streams in accordance with LAC 33:IX.5905.C.)

2) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

X.

PREVIOUS PERMITS:**LPDES Permit No. LA0102750:**

Issued:

April 1, 2004

Expired:

March 31, 2009

Outfall 001

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Daily Avg.</u>	<u>Daily Max.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	Daily	Estimate
BOD ₅	30 mg/l	45 mg/l	1/month	Grab
TOC	---	50 mg/l	1/month	Grab
TSS	90 mg/l	135 mg/l	1/month	Grab
Oil and grease	---	15 mg/l	1/month	Grab
Ammonia-Nitrogen	4.9 mg/l	10 mg/l	1/month	Grab
Turbidity	---	50 NTUs	1/month	Grab
Visible Sheen	---	No presence	1/month	Grab
pH	---	---	1/month	Grab
Alpha terpineol	0.016 mg/l	0.033 mg/l	1/quarter	24-hr composite
Benzoic Acid	0.071 mg/l	0.12 mg/l	1/quarter	24-hr composite
p-Cresol	0.014 mg/l	0.025 mg/l	1/quarter	24-hr composite
Zinc	0.11 mg/l	0.2 mg/l	1/quarter	24-hr composite
Phenol	0.015 mg/l	0.026 mg/l	1/quarter	24-hr composite

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Outfall 002				
Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Daily Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow	Report	Report	Daily	Estimate
BOD ₅	30 mg/l	45 mg/l	1/month	Grab
TOC	---	50 mg/l	1/month	Grab
TSS	90 mg/l	135 mg/l	1/month	Grab
Oil and grease	---	15 mg/l	1/month	Grab
Ammonia-Nitrogen	4.9 mg/l	10 mg/l	1/month	Grab
Turbidity	---	50 NTUs	1/month	Grab
Visible Sheen	---	No presence	1/month	Grab
pH	---	---	1/month	Grab
Alpha terpineol	0.016 mg/l	0.033 mg/l	1/quarter	24-hr composite
Benzoic Acid	0.071 mg/l	0.12 mg/l	1/quarter	24-hr composite
p-Cresol	0.014 mg/l	0.025 mg/l	1/quarter	24-hr composite
Zinc	0.11 mg/l	0.2 mg/l	1/quarter	24-hr composite
Phenol	0.015 mg/l	0.026 mg/l	1/quarter	24-hr composite

Outfall 003				
Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Daily Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow	Report	Report	Daily	Estimate
BOD ₅	---	45 mg/l	2/month	Grab
TSS	---	45 mg/l	2/month	Grab
Fecal Coliform Colonies 200		400	2/month	Grab

Outfall 004				
Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Daily Avg.	Daily Max.	Measurement Frequency	Sample Type
Flow	Report	Report	Continuous	Recorder
BOD ₅	30 mg/l	45 mg/l	1/month	Grab
TOC	---	50 mg/l	1/month	Grab
TSS	90 mg/l	135 mg/l	1/month	Grab
Oil and grease	---	15 mg/l	1/month	Grab
Ammonia-Nitrogen	4.9 mg/l	10 mg/l	1/month	Grab
Turbidity	---	50 NTUs	1/month	Grab
Visible Sheen	---	No presence	1/month	Grab
Sulfates	---	250 mg/l	1/month	Grab
Chlorides	---	250 mg/l	1/month	Grab
Priority Pollutants	---	---	1/year	24 hr composite
pH	---	---	1/month	Grab
Fecal Coliform Colonies 200		400	2/month	Grab
Alpha terpineol	0.016 mg/l	0.033 mg/l	1/quarter	24-hr composite
Benzoic Acid	0.071 mg/l	0.12 mg/l	1/quarter	24-hr composite
p-Cresol	0.014 mg/l	0.025 mg/l	1/quarter	24-hr composite
Zinc	0.11 mg/l	0.2 mg/l	1/quarter	24-hr composite
Phenol	0.015 mg/l	0.026 mg/l	1/quarter	24-hr composite

The permit contains biomonitoring.

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XI. ENFORCEMENT AND SURVEILLANCE ACTIONS:**A) Inspections**

A review of the files indicates the following most recent inspections were performed for this facility.

Date – March 9, 2007

Inspector - LDEQ

Findings and/or Violations -

1. Control berms are not in place to prevent run-off and contaminated water from entering the borrow pit.
2. The western slope of active Type I, II cell only has interim cover. There is no berm or two foot cover to prevent contaminated run-off.

Date – August 29, 2007

Inspector - LDEQ

Findings and/or Violations -

1. No discharge was observed at outfall 001 or 004.
2. Sewage was present at the outfall 003. The outfall is not sampled as required nor is DMR generated each month.
3. Ground on south side of active cell adjacent to the interstate is not covered with vegetation.

B) Compliance and/or Administrative Orders

A review of the files indicates the following most recent enforcement actions administered against this facility:

LDEQ Issuance:

Docket # - WE-L-07-0527

Date Issued – October 12, 2007

A warning letter was issued for the permittee to address concerns from the August 29, 2007 inspection.

Docket # - MM-L-07-0018

Date Issued – March 9, 2007

A warning letter was issued for the permittee to address concerns from the March 9, 2007 inspection.

An Administrative Order was issued to White Oaks Landfill on June 26, 2009. The AO authorized the acceptance of non-hazardous exploration and production wastes (crude oil spill clean-up and drilling waste defined as mud, fluids, and cuttings) for disposal in the landfill. For accepting the waste additional sampling requirements for LDPES Permit LA0102750 were established. The additional requirements included increased monitoring for priority pollutants at outfall 004 and increased monitoring of chlorides at outfall 001 and 002.

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C) DMR Review

A review of Discharge Monitoring Reports from January, 2007 through June, 2009 revealed the violations on the following page. Due to the number of violations, the Office of Environmental Compliance has been sent a copy of this Statement of Basis.

Parameter	Outfall	Period of Excursion	Permit Limit	Reported Quantity
TOC	004	January, 2009	50 mg/l	64.8 mg/l
TOC	004	February, 2009	50 mg/l	57 mg/l
TOC	004	March, 2009	50 mg/l	58.5 mg/l
TOC	004	April, 2009	50 mg/l	61.5 mg/l
TOC	004	May, 2009	50 mg/l	64.9 mg/l
TOC	004	June, 2009	50 mg/l	63.1 mg/l
Chlorides	004	Mar, 2009	250 mg/l	264 mg/l
Chlorides	004	June, 2009	250 mg/l	276 mg/l
Fecal coliform	004	December, 2008	400 col/100ml	2200 col/100ml
BOD	003	January, 2008	45 mg/l	51 mg/l
Fecal coliform	003	January, 2008	400 col/100ml	5600 col/100ml
Fecal coliform	003	April, 2008	400 col/100ml	536 col/100ml
pH	003	May, 2008	6.0 s.u. minimum	5.41 s.u.
Fecal coliform	003	June, 2008	400 col/100ml	>400 col/100ml
TSS	003	October, 2008	45 mg/l	84.7 mg/l
pH	003	November 2008	6.0 s.u. minimum	5.41 s.u.
TSS	003	December, 2008	45 mg/l	115 mg/l
BOD	003	February, 2009	45 mg/l	136 mg/l
TSS	003	February, 2009	45 mg/l	77 mg/l

*Because of effluent violations in the above table, the Facility has been referred to the Office of Environmental Compliance.

XII.

ADDITIONAL INFORMATION:

The Louisiana Department of Environmental Quality (LDEQ) reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional water quality studies and/or TMDL's. The LDEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDL's for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as requested by the permittee and/or as necessary to achieve compliance with water quality standards. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

In accordance with LAC 33:IX.2903., this permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(c) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, if the effluent standard or limitations so issued or approved:

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- a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- b) Controls any pollutant not limited in the permit; or
- c) Requires reassessment due to change in 303(d) status of waterbody; or
- d) Incorporates the results of any total maximum daily load allocation, which may be approved for the receiving water body.

At present, the **Monitoring Requirements, Sample Types, and Frequency of Sampling** as shown in the permit are standard for facilities of this type.

XIII TENTATIVE DETERMINATION:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in this Statement of Basis.

XIV REFERENCES:

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 8, "Wasteload Allocations / Total Maximum Daily Loads and Effluent Limitations Policy," Louisiana Department of Environmental Quality, 2008.

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 5, "Water Quality Inventory Section 305(b) Report," Louisiana Department of Environmental Quality, 2006.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards", Louisiana Department of Environmental Quality, 2009.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Subpart 2 - "The LPDES Program", Louisiana Department of Environmental Quality, 2009.

Low-Flow Characteristics of Louisiana Streams, Water Resources Technical Report No. 22, United States Department of the Interior, Geological Survey, 1980.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

LPDES Permit Application to Discharge Wastewater, CWI-White Oaks Landfill, LLC, White Oaks Landfill, October 2, 2008.

APPENDIX A-2, LA0102750, AI No. 41194

Documentation and Explanation of Water Quality Screen
and Associated Lotus Spreadsheet

Each reference column is marked by a set of parentheses enclosing a number and asterisk, for example (*1) or (*19). These columns represent inputs, existing data sets, calculation points, and results for determining Water Quality Based Limits for an effluent of concern. The following represents a summary of information used in calculating the water quality screen:

Receiving Water Characteristics:

Receiving Water: unnamed ditch, thence into Interstate Highway 20 ditch, thence into Gourd Bayou

Critical Flow, Qrc (cfs):

Harmonic Mean Flow, Qrh (cfs): 1

Segment No.: 080904

Receiving Stream Hardness (mg/L): 46.2

Receiving Stream TSS (mg/L): 15.9

MZ Stream Factor, Fs: 1

Plume distance, Pf: N/A

Effluent Characteristics:

Company: CWI-White Oaks Landfill, LLC

Facility flow, Qe (MGD):

Effluent Hardness: N/A

Effluent TSS: N/A

Pipe/canal width, Pw: N/A

Permit Number: LA0102750

Variable Definition:

Qrc, critical flow of receiving stream, cfs

Qrh, harmonic mean flow of the receiving stream, cfs

Pf = Allowable plume distance in feet, specified in LAC 33.IX.1115.D

Pw = Pipe width or canal width in feet

Qe, total facility flow, MGD

Fs, stream factor from LAC.IX.33.11 (1 for harmonic mean flow)

Cu, ambient concentration, ug/L

Cr, numerical criteria from LAC.IX.1113, Table 1

WLA, wasteload allocation

LTA, long term average calculations

WQBL, effluent water quality based limit

ZID, Zone of Initial Dilution in % effluent

MZ, Mixing Zone in % effluent

Formulas used in aquatic life water quality screen (dilution type WLA):

Streams:

$$\text{Dilution Factor} = \frac{Q_e}{(Q_{rc} \times 0.6463 \times F_s + Q_e)}$$

$$\text{WLA a,c,h} = \frac{C_r}{\text{Dilution Factor}} - \frac{(F_s \times Q_{rc} \times 0.6463 \times C_u)}{Q_e}$$

Static water bodies (in the absence of a site specific dilution):

Discharge from a pipe:

Discharge from a canal:

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$$\text{Critical Dilution} = \frac{(2.8) P_w \pi^{1/2}}{Pf}$$

$$WLA = \frac{(Cr-Cu) Pf}{(2.8) P_w \pi^{1/2}}$$

$$\text{Critical Dilution} = \frac{(2.38)(P_w^{1/2})}{(Pf)^{1/2}}$$

$$WLA = \frac{(Cr-Cu) Pf^{1/2}}{2.38 P_w^{1/2}}$$

Formulas used in human health water quality screen, human health non-carcinogens (dilution type WLA):

Streams

$$\text{Dilution Factor} = \frac{Q_e}{(Q_{rc} \times 0.6463 + Q_e)}$$

$$WLA_{a,c,h} = \frac{Cr}{\text{Dilution Factor}} - \frac{(Q_{rc} \times 0.6463 \times Cu)}{Q_e}$$

Formulas used in human health water quality screen, human health carcinogens (dilution type WLA):

$$\text{Dilution Factor} = \frac{Q_e}{(Q_{rh} \times 0.6463 + Q_e)}$$

$$WLA_{a,c,h} = \frac{Cr}{\text{Dilution Factor}} - \frac{(Q_{rh} \times 0.6463 \times Cu)}{Q_e}$$

Static water bodies in the absence of a site specific dilution (human health carcinogens and human health non-carcinogens):

Discharge from a pipe:

$$\text{Critical Dilution} = \frac{(2.8) P_w \pi^{1/2}}{Pf}$$

$$WLA = \frac{(Cr-Cu) Pf^*}{(2.8) P_w \pi^{1/2}}$$

Discharge from a canal:

$$\text{Critical Dilution} = \frac{(2.38)(P_w^{1/2})}{(Pf)^{1/2}}$$

$$WLA = \frac{(Cr-Cu) Pf^{1/2}}{2.38 P_w^{1/2}}$$

* Pf is set equal to the mixing zone distance specified in LAC 33:IX.1115 for the static water body type, i.e., lake, estuary, Gulf of Mexico, etc.

If a site specific dilution is used, WLA are calculated by subtracting Cu from Cr and dividing by the site specific dilution for human health and aquatic life criteria.

$$WLA = \frac{(Cr-Cu)}{\text{site specific dilution}}$$

Longterm Average Calculations:

$$LTAa = WLa \times 0.32$$

$$LTAc = WLAc \times 0.53$$

$$LTAh = WLAh$$

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WQBL Calculations:

Select most limiting LTA to calculate daily max and monthly avg WQBL

If aquatic life LTA is more limiting:

Daily Maximum = $\text{Min}(\text{LTAA}, \text{LTAC}) \times 3.11$ Monthly Average = $\text{Min}(\text{LTAC}, \text{LTAC}) \times 1.31$

If human health LTA is more limiting:

Daily Maximum = $\text{LTAh} \times 2.38$ Monthly Average = LTAh

Mass Balance Formulas:

mass (lbs/day): $(\text{ug/L}) \times 1/1000 \times (\text{flow, MGD}) \times 8.34 = \text{lbs/day}$ concentration(ug/L): $\frac{\text{lbs/day}}{(\text{flow, MGD}) \times 8.34 \times 1/1000} = \text{ug/L}$

The following is an explanation of the references in the spreadsheet.

- (*1) Parameter being screened.
- (*2) Instream concentration for the parameter being screened in ug/L. In the absence of accurate supporting data, the instream concentration is assumed to be zero (0).
- (*3) Monthly average effluent or technology value in concentration units of ug/L or mass units of lbs/day. Units determined on a case-by-case basis as appropriate to the particular situation.
- (*4) Daily maximum technology value in concentration units of ug/L or mass units of lbs/day. Units determined on a case-by-case basis as appropriate to the particular situation.
- (*5) Minimum analytical Quantification Levels (MQL's). Established in a letter dated January 27, 1994 from Wren Stenger of EPA Region 6 to Kilren Vidrine of LDEQ and from the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". The applicant must test for the parameter at a level at least as sensitive as the specified MQL. If this is not done, the MQL becomes the application value for screening purposes if the pollutant is suspected to be present on-site and/or in the waste stream. Units are in ug/l or lbs/day depending on the units of the effluent data.
- (*6) States whether effluent data is based on 95th percentile estimation. A "1" indicates that a 95th percentile approximation is being used, a "0" indicates that no 95th percentile approximation is being used.
- (*7) 95th percentile approximation multiplier (2.13). The constant, 2.13, was established in memorandum of understanding dated October 8, 1991 from Jack Ferguson of Region 6 to Jesse Chang of LDEQ and included in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". This value is screened against effluent Water Quality Based Limits established in columns (*18) - (*21). Units are in ug/l or lbs/day depending on the units of the measured effluent data.
- (*8) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, freshwater (FW) or marine water (MW) (whichever is applicable) aquatic life protection, acute criteria. Units are specified. Some metals are hardness dependent. The hardness of the receiving stream shall generally be used, however a flow weighted hardness may be determined in site-specific situations. Dissolved metals are converted to Total metals using partition coefficients in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Similar to hardness, the TSS of the receiving stream shall generally be used, however, a flow weighted TSS may be determined in site-specific situations.

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Hardness Dependent Criteria:

<u>Metal</u>	<u>Formula</u>
Cadmium	$e^{(1.1280(\ln(\text{hardness})) - 1.6774)}$
Chromium III	$e^{(0.8190(\ln(\text{hardness})) + 3.6880)}$
Copper	$e^{(0.9422(\ln(\text{hardness})) - 1.3884)}$
Lead	$e^{(1.2730(\ln(\text{hardness})) - 1.4600)}$
Nickel	$e^{(0.8460(\ln(\text{hardness})) + 3.3612)}$
Zinc	$e^{(0.8473(\ln(\text{hardness})) + 0.8604)}$

Dissolved to Total Metal Multipliers for Freshwater Streams (TSS dependent):

<u>Metal</u>	<u>Multiplier</u>
Arsenic	$1 + 0.48 \times \text{TSS}^{-0.73} \times \text{TSS}$
Cadmium	$1 + 4.00 \times \text{TSS}^{-1.13} \times \text{TSS}$
Chromium III	$1 + 3.36 \times \text{TSS}^{-0.93} \times \text{TSS}$
Copper	$1 + 1.04 \times \text{TSS}^{-0.74} \times \text{TSS}$
Lead	$1 + 2.80 \times \text{TSS}^{-0.80} \times \text{TSS}$
Mercury	$1 + 2.90 \times \text{TSS}^{-1.14} \times \text{TSS}$
Nickel	$1 + 0.49 \times \text{TSS}^{-0.57} \times \text{TSS}$
Zinc	$1 + 1.25 \times \text{TSS}^{-0.70} \times \text{TSS}$

Dissolved to Total Metal Multipliers for Marine Environments (TSS dependent):

<u>Metal</u>	<u>Multiplier</u>
Copper	$1 + (10^{4.86} \times \text{TSS}^{-0.72} \times \text{TSS}) \times 10^{-6}$
Lead	$1 + (10^{6.06} \times \text{TSS}^{-0.85} \times \text{TSS}) \times 10^{-6}$
Zinc	$1 + (10^{5.36} \times \text{TSS}^{-0.52} \times \text{TSS}) \times 10^{-6}$

If a metal does not have multiplier listed above, then the dissolved to total metal multiplier shall be 1.

- (*9) LAC 33:IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, freshwater (FW) or marine water (MW) (whichever is applicable) aquatic life protection, chronic criteria. Units are specified. Some metals are hardness dependent. The hardness of the receiving stream shall generally be used, however a flow weighted hardness may be determined in site-specific situations. Dissolved metals are converted to Total metals using partition coefficients in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Similar to hardness, the TSS of the receiving stream shall generally be used, however, a flow weighted TSS may be determined in site-specific situations.

Hardness dependent criteria:

<u>Metal</u>	<u>Formula</u>
Cadmium	$e^{(0.7852(\ln(\text{hardness})) - 3.4900)}$
Chromium III	$e^{(0.8473(\ln(\text{hardness})) + 0.7614)}$
Copper	$e^{(0.8545(\ln(\text{hardness})) - 1.3860)}$
Lead	$e^{(1.2730(\ln(\text{hardness})) - 4.7050)}$
Nickel	$e^{(0.8460(\ln(\text{hardness})) + 1.1645)}$
Zinc	$e^{(0.8473(\ln(\text{hardness})) + 0.7614)}$

Dissolved to total metal multiplier formulas are the same as (*8), acute numerical criteria for aquatic life protection.

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- (*10) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, human health protection, drinking water supply (HHDW), non-drinking water supply criteria (HHNDW), or human health non-primary contact recreation (HHNPCR) (whichever is applicable). A DEQ and EPA approved Use Attainability Analysis is required before HHNPCR is used, e.g., Monte Sano Bayou. Units are specified.
- (*11) C if screened and carcinogenic. If a parameter is being screened and is carcinogenic a "C" will appear in this column.
- (*12) Wasteload Allocation for acute aquatic criteria (WLAa). Dilution type WLAa is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the acute aquatic numerical criteria for that parameter. Units are in ug/L. Dilution WLAa formulas for streams:

$$WLAa = (Cr/Dilution\ Factor) - \frac{(Fs \times Q_{rc} \times 0.6463 \times Cu)}{Q_e}$$
Dilution WLAa formulas for static water bodies:

$$WLAa = (Cr-Cu)/Dilution\ Factor$$
Cr represents aquatic acute numerical criteria from column (*8).
If Cu data is unavailable or inadequate, assume Cu=0.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.
- (*13) Wasteload Allocation for chronic aquatic criteria (WLAc). Dilution type WLAc is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the chronic aquatic numerical criteria for that parameter. Units are in ug/L. Dilution WLAc formula:

$$WLAc = (Cr/Dilution\ Factor) - \frac{(Fs \times Q_{rc} \times 0.6463 \times Cu)}{Q_e}$$
Dilution WLAc formulas for static water bodies:

$$WLAc = (Cr-Cu)/Dilution\ Factor$$
Cr represents aquatic chronic numerical criteria from column (*9).
If Cu data is unavailable or inadequate, assume Cu=0.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.
- (*14) Wasteload Allocation for human health criteria (WLAh). Dilution type WLAh is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the human health numerical criteria for that parameter. Units are in ug/L. Dilution WLAh formula:

$$WLAh = (Cr/Dilution\ Factor) - \frac{(Fs \times Q_{rc}, Q_{rh} \times 0.6463 \times Cu)}{Q_e}$$
Dilution WLAh formulas for static water bodies:

$$WLAh = (Cr-Cu)/Dilution\ Factor$$
Cr represents human health numerical criteria from column (*10).
If Cu data is unavailable or inadequate, assume Cu=0.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.
- (*15) Long Term Average for aquatic numerical criteria (LTAA). WLAa numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 0.32. $WLAa \times 0.32 = LTAA$.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.
- (*16) Long Term Average for chronic numerical criteria (LTAc). WLAc numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 0.53. $WLAc \times 0.53 = LTAc$.

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 LA0102750, AI No. 41194
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- If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.
- (*17) Long Term Average for human health numerical criteria (LTA_h). WLA_h numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 1. $WLA_c \times 1 = LTA_h$.
 If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.
- (*18) Limiting Acute, Chronic or Human Health LTA's. The most limiting LTA is placed in this column. Units are consistent with the WLA calculation. If standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then the type of limit, Aquatic or Human Health (HH), is indicated.
- (*19) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of concentration, ug/L. If aquatic life criteria was the most limiting LTA then the limiting LTA is multiplied by 1.31 to determine the average WQBL ($LTA_{\text{limiting aquatic}} \times 1.31 = WQBL_{\text{monthly average}}$). If human health criteria was the most limiting criteria then $LTA_h = WQBL_{\text{monthly average}}$. If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then either the human health criteria or the chronic aquatic life criteria shall appear in this column depending on which is more limiting.
- (*20) End of pipe Water Quality Based Limit (WQBL) daily maximum in terms of concentration, ug/L. If aquatic life criteria was the most limiting LTA then the limiting LTA is multiplied by 3.11 to determine the daily maximum WQBL ($LTA_{\text{limiting aquatic}} \times 3.11 = WQBL_{\text{daily max}}$). If human health criteria was the most limiting criteria then LTA_h is multiplied by 2.38 to determine the daily maximum WQBL ($LTA_{\text{limiting aquatic}} \times 2.38 = WQBL_{\text{daily max}}$). If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then either the human health criteria or the acute aquatic life criteria shall appear in this column depending on which is more limiting.
- (*21) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of mass, lbs/day. The mass limit is determined by using the mass balance equations above. $\text{Monthly average WQBL, ug/l/1000} \times \text{facility flow, MGD} \times 8.34 = \text{monthly average WQBL, lbs/day}$.
- (*22) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of mass, lbs/day. Mass limit is determined by using the mass balance equations above. $\text{Daily maximum WQBL, ug/l/1000} \times \text{facility flow, MGD} \times 8.34 = \text{daily maximum WQBL, lbs/day}$.
- (*23) Indicates whether the screened effluent value(s) need water quality based limits for the parameter of concern. A "yes" indicates that a water quality based limit is needed in the permit, a "no" indicates the reverse.

wqsmo.dn.wk4

Date: 12/09

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Page 1

Developer: Bruce Fielding

Time: 07:31 AM

Software: Lotus 4.0

LA0102750/AI41194

Revision date: 03/11/09

Water Quality Screen for

Input variables:

Receiving Water Characteristics:

Dilution:

Toxicity Dilution Series:

ZID Fs = 0.1

Biomonitoring dilution: 0.388147

Receiving Water Name= unnamed ditch along Interstate Hwy. 20, thence into Gourd Dilution Series Factor: 0.75

Critical flow (Qr) cfs= 0.1 MZ Fs = 1

Harm. mean/avg tidal cfs= 1 Critical Qr (MGD)= 0.06463

Drinking Water=1 HHNPCR=2 Harm. Mean (MGD)= 0.6463

MW=1, BW=2, 0=n ZID Dilution = 0.063831

Rec. Water Hardness= 46.2 MZ Dilution = 0.388147

Rec. Water TSS= 15.9 HHnc Dilution= 0.388147

Fisch/Specific=1, Stream=0 HHc Dilution= 0.059654

Diffuser Ratio= ZID Upstream = 0.157634

MZ Upstream = 1.576341

MZhhnc Upstream= 1.576341

Partition Coefficients: Dissolved-->Total

Effluent Characteristics:

Permittee=

Permit Number= LA0102750

Facility flow (Def), MGD= 0.041

MZhhnc Upstream= 1.576341

ZID Hardness= ---

MZ Hardness= ---

ZID TSS= ---

MZ TSS= ---

Multipliers:

WLAA --> LTAA 0.32

WLAC --> LTAC 0.53

LTA a,c-->WQBL avg 1.31

LTA a,c-->WQBL max 3.11

LTA h --> WQBL max 2.38

WQBL-limit/report 2.13

WLA Fraction 1

WQBL Fraction 1

Conversions:

ug/L-->lbs/day Qef 0.000342

ug/L-->lbs/day Qeo 0

ug/L-->lbs/day Qr 0.000834

lbs/day-->ug/L Qeo 2924.49

lbs/day-->ug/L Qef 2924.49

diss-->tot l=y0=n 1

Cu diss-->tot l=y0=n 1

cfs-->MGD 0.6463

Fischer/Site Specific inputs:

Pipe=1, Canal=2, Specific=3

Pipe width, feet

ZID plume dist., feet

MZ plume dist., feet

HHnc plume dist., feet

HHc plume dist., feet

Fischer/site specific dilutions:

Dilution = ---

F/specific MZ Dilution = ---

F/specific HHnc Dilution= ---

F/specific HHc Dilution= ---

Receiving Stream:

Default Hardness= 25

Default TSS= 10

99 Crit., l=y, 0=n 1

Old MQL=1, New=0 1

METALS

FW

Total Arsenic 2.013021

Total Cadmium 3.791762

Chromium III 5.077905

Chromium VI 1

Total Copper 5.134994

Total Lead 5.868974

Total Mercury 2.968804

Total Nickel 2.609892

Total Zinc 11.866635

Aquatic Life, Dissolved

Metal Criteria, ug/L

METALS

ACUTE

CHRONIC

Arsenic 339.8 150

Cadmium 13.7663 0.582265

Chromium III 291.5459 94.57447

Chromium VI 15.712 10.582

Copper 8.901427 6.350028

Lead 27.60301 1.07565

Mercury 1.734 0.012

Nickel 736.4924 81.79339

Zinc 59.49178 54.32502

Site Specific Multiplier Values:

CV = ---

N = ---

WLAA --> LTAA ---

WLAC --> LTAC ---

LTA a,c-->WQBL avg ---

LTA a,c-->WQBL max ---

LTA h --> WQBL max ---

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Toxic	Co Effluent		Effluent	MCL Effluent	95th %	Numerical Criteria			HM	
Parameters	Instream	/Tech	/Tech	1-No 95%	estimate	Acute	Chronic	HQMDW	Carcinogen	
	Conc.	(Avg)	(Max)	0-95 %	Non-Tech	PW	PW		Indicator	
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	"C"	
NONCONVENTIONAL										
Total Phenols (AAP)				5		700	350	50		
3-Chlorophenol				10						
4-Chlorophenol				10		383	192			
2,3-Dichlorophenol				10						
2,5-Dichlorophenol				10						
2,6-Dichlorophenol				10						
3,4-Dichlorophenol				10						
2,4-Dichlorophenoxy-										
acetic acid (2,4-D)				---						
2-(2,4,5-Trichlorophen-										
oxy) propionic acid										
(2,4,5-TP, Silvex)				---						
METALS AND CYANIDE										
Total Arsenic				10		684.0245	301.9532			
Total Cadmium				1		52.19854	2.207611			
Chromium III				10		1480.442	480.2401			
Chromium VI				10		15.712	10.582			
Total Copper				10		27.90592	19.9073			
Total Lead				5		162.0014	6.312961			
Total Mercury				0.2		5.347905	0.035626			
Total Nickel				40		1922.166	213.4719			
Total Zinc				20		230.016	230.0395			
Total Cyanide				20		45.9	5.4	12844		
DIOXIN										
2,3,7,8 TCDD; dioxin				1 DE-05				7.2E-07		C
VOLATILE COMPOUNDS										
Benzene				10		2249	1125	12.5		C
Bromoform				10		2930	1465	34.7		C
Bromodichloromethane				10				3.3		C
Carbon Tetrachloride				10		2730	1365	1.2		C
Chloroform		20.4		10	0	43.452	2890	1445	70	C
Dibromochloromethane				10				5.08		C
1,2-Dichloroethane				10		11800	5900	6.8		C
1,1-Dichloroethylene				10		1160	580	0.58		C
1,1-Dichloropropylene				10		606	303	162.79		
Ethylbenzene				10		3200	1600	8100		
Methyl Chloride		16.2		50	0	34.506	55000	27500		
Methylene Chloride				20		19300	9650	87		C
1,1,1,2,2-Tetrachloro-										
ethane				10		932	466	1.8		C

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(+1)	(+12)	(+13)	(+14)	(+15)	(+16)	(+17)	(+18)	(+19)	(+20)	(+21)	(+22)	(+23)
Toxic	WLAa	WLAc	WLAh	LTAA	LTAc	LTAh	Limiting	WQBL	WQBL	WQBL	WQBL	Need
Parameters	Acute	Chronic	HHNDW	Acute	Chronic	HHNDW	A.C.HH	Avg	Max	Avg	Max	WQBL?
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	004 ug/L	004 ug/L	004 lbs/day	004 lbs/day	
NONCONVENTIONAL												
Total Phenols (4AAP)	810.3439	901.71951	128.81707	259.31005	477.91134	128.81707	128.81707	128.81707	306.58463	0.0440477	0.1048335	no
3-Chlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
4-Chlorophenol	443.37388	494.65756	---	141.87964	262.16851	---	141.87964	185.86233	441.24568	0.0635538	0.1508795	no
2,3-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,5-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,6-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
3,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,4-Dichlorophenoc-												
acetic acid (2,4-D)	---	---	---	---	---	---	---	---	---	---	---	no
2-(2,4,5-Trichlorophen-												
oxy) propionic acid												
(2,4,5-TP, Silvex)	---	---	---	---	---	---	---	---	---	---	---	no
METALS AND CYANIDE												
Total Arsenic	791.85017	777.93443	---	253.39205	412.30525	---	253.39205	331.94359	788.04929	0.1125048	0.2694656	no
Total Cadmium	60.426817	5.6880743	---	19.336581	3.0146794	---	3.0146794	3.94923	9.3756529	0.0013504	0.0032059	no
Chromium III	1713.8105	1237.2626	---	548.41935	655.74918	---	548.41935	718.42934	1705.5842	0.2456597	0.5832074	no
Chromium VI	18.188748	27.262645	---	5.8203993	14.449308	---	5.8203993	7.624723	18.101442	0.0026072	0.0061896	no
Total Copper	32.304842	51.287997	---	10.337549	27.182639	---	10.337549	13.54219	32.149779	0.0046306	0.0109933	no
Total Lead	187.53832	16.264343	---	60.012263	8.6201018	---	8.6201018	11.292333	26.808516	0.0038613	0.0091669	no
Total Mercury	5.9593912	0.0917838	---	1.9070052	0.0486454	---	0.0486454	0.0637255	0.1512873	2.179E-05	5.173E-05	no
Total Nickel	2225.1649	549.9766	---	712.05275	291.4876	---	291.4876	381.84876	906.52644	0.1305694	0.3099776	no
Total Zinc	266.2744	541.1335	---	85.207808	286.80075	---	85.207808	111.62223	264.99628	0.0381681	0.0906128	no
Total Cyanide	53.135407	13.912244	33090.53	17.00333	7.3734893	33090.53	7.3734893	9.6592709	22.931552	0.0033029	0.0078412	no
DIOXIN												
2,3,7,8 TCDD: dioxin	---	---	1.207E-05	---	---	1.207E-05	1.207E-05	1.207E-05	2.873E-05	4.127E-09	9.822E-09	no
VOLATILE COMPOUNDS												
Benzene	2603.5192	2898.3841	209.54268	833.12614	1536.1436	209.54268	209.54268	209.54268	498.71159	0.071651	0.1705294	no
Bromoform	3391.868	3774.3402	581.69049	1085.3978	2000.4003	581.69049	581.69049	581.69049	1384.4234	0.1989032	0.4733897	no
Bromodichloromethane	---	---	55.319268	---	---	55.319268	55.319268	55.319268	131.65986	0.0189159	0.0450198	no
Carbon Tetrachloride	3160.3412	3516.7061	20.116098	1011.3092	1863.8542	20.116098	20.116098	20.116098	47.876312	0.0068785	0.0163708	no
Chloroform	3345.5627	3722.8134	1173.439	1070.5801	1973.0911	1173.439	1070.5801	1402.4599	3329.504	0.4795571	1.1384906	no
Dibromochloromethane	---	---	85.158146	---	---	85.158146	85.158146	85.158146	202.67639	0.029119	0.0693032	no
1,2-Dichloroethane	13660.083	15200.415	113.99122	4371.2265	8056.2198	113.99122	113.99122	113.99122	271.2991	0.0389782	0.092768	no
1,1-Dichloroethylene	1342.8556	1494.278	9.7227805	429.7138	791.96737	9.7227805	9.7227805	9.7227805	23.140218	0.0033246	0.0079126	no
1,3-Dichloropropylene	701.52629	780.63146	419.40263	224.48841	413.73468	419.40263	224.48841	294.07982	698.15897	0.1005577	0.2387285	no
Ethylbenzene	3704.4293	4122.1463	20868.366	1185.4174	2184.7376	20868.366	1185.4174	1552.8967	3686.648	0.5309975	1.2606124	no
Methyl Chloride	63669.878	70849.39	---	20374.361	37550.177	---	20374.361	26690.413	63364.263	9.1265198	21.666776	no
Methylene Chloride	22342.339	24861.695	1458.4171	7149.5485	13176.698	1458.4171	1458.4171	1458.4171	3471.0326	0.4986911	1.1868849	no
1,1,2,2-Tetrachloro-												
ethane	1078.915	1200.5751	30.174146	345.25281	636.30481	30.174146	30.174146	30.174146	71.814468	0.0103177	0.0245562	no

1A0102750

[illegible]

MEMORANDUM

TO: Angela Marse

FROM: Todd Franklin

DATE: June 4, 2009

RE: Stream Flow and Water Quality Characteristics for Gourd Bayou, receiving waters for CWI – White Oaks Landfill, LLC
Permit No. LA0102750, AI: 41194

Determination of the water quality characteristics for Outfall 004 was taken from random site number 2260 (Gourd Bayou at the bridge on an unimproved parish road about 9.6 miles east of Monroe, Louisiana). The following TSS and hardness results were obtained from two and three separate samples, respectively.

Average hardness	=	46.2 mg/l
15 th percentile TSS	=	15.9 mg/l

The discharge is into an unnamed ditch before flowing into Gourd Bayou. At the point of discharge, the ditch and Gourd Bayou can expect to be dry during critical conditions. Therefore, for permit limit calculations, the default critical low flow (7Q10) is 0.1 cfs and the harmonic mean flow is 1 cfs.

If you have additional questions or comments, please contact me at 2-3102.

FRESHWATER CHRONIC

BIOMONITORING FREQUENCY RECOMMENDATION AND RATIONALE FOR ADDITIONAL REQUIREMENTS

Permit Number: **LA0102750**
 Facility Name: **CWI White Oaks Landfill**
 Previous Critical Biomonitoring Dilution: **39%**
 Proposed Critical Biomonitoring Dilution: **39%**
 Date of Review: **07/01/09**
 Name of Reviewer: **Laura Thompson**

Recommended Frequency by Species for Outfall 004:

Pimephales promelas (Fathead minnow): **Once/Quarter¹**
Ceriodaphnia dubia (water flea): **Once/Quarter¹**

Recommended Dilution Series: **16%, 22%, 29%, 39%, and 52%**

Number of Tests Performed during previous 5 years by Species:

Pimephales promelas (Fathead minnow): **4**
Daphnia pulex (water flea): **N/A – Testing of species was not required**
Ceriodaphnia dubia (water flea): **5**

Number of Failed Tests during previous 5 years by Species:

Pimephales promelas (Fathead minnow): **No failures on file during the past 5 years**
Daphnia pulex (water flea): **N/A – Testing of species was not required**
Ceriodaphnia dubia (water flea): **1 sub-lethal**

Failed Test Dates during previous 5 years by Species:

Pimephales promelas (Fathead minnow): **No failures on file during the past 5 years**
Daphnia pulex (water flea): **N/A – Testing of species was not required**
Ceriodaphnia dubia (water flea): **Testing period of 4/1/08-8/30/08**

Previous TRE Activities: **N/A – No previous TRE activities**

¹ This facility shall have an established biomonitoring testing frequency of once per quarter for the term of the permit

FRESHWATER CHRONIC

Additional Requirements (including WET Limits) Rationale / Comments Concerning Permitting:

CWI White Oaks Landfill owns and operates an existing a solid waste landfill facility in Monroe, Ouachita Parish, Louisiana. LPDES Permit LA0102750, effective April 1, 2004, contained freshwater chronic biomonitoring as an effluent characteristic of Outfall 004 for *Ceriodaphnia dubia* and *Pimephales promelas*. The effluent series consisted of 16.5%, 22%, 29%, 39%, and 52% concentrations, with the 39% effluent concentration being defined as the critical biomonitoring dilution. The testing was to be performed quarterly for *Ceriodaphnia dubia* and *Pimephales promelas*. Data on file indicate that the permittee has experienced 1 sub-lethal failure to the *Ceriodaphnia dubia* during the past five years.

According to data on file with LDEQ, this facility experienced one sub-lethal biomonitoring failure to the *Ceriodaphnia dubia* during the previous permit cycle. Also, there is no testing data on file at LDEQ before the second calendar quarter of 2008. According to an email received on 6/30/09 from Jon Fourrier (consultant for the permittee), prior to 2008, LPDES testing was handled by a landfill manager that is no longer employed by CWI. As of the date of this recommendation, the biomonitoring DMRs for the pre-2008 time period cannot be located. In order to generate a complete compliance record, the frequency reduction option will not be available under this reissued permit.

It is recommended that freshwater chronic biomonitoring be an effluent characteristic of Outfall 004 (discharge of 0.041 mgd of contact stormwater and leachate) in LA0102750. The effluent dilution series shall be 16%, 22%, 29%, 39%, and 52% concentrations, with the 39% effluent concentration being defined as the critical biomonitoring dilution. The recommended biomonitoring frequency shall be once per quarter for *Ceriodaphnia dubia* and *Pimephales promelas* for the life of the permit.

This recommendation is in accordance with the LDEQ/OES Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan Volume 3. Version 6 (April 16, 2008), and the Best Professional Judgment (BPJ) of the reviewer.

CWI-White Oaks
LA0102750/A141194

	Flow		BOD ₅		TSS		NH ₃ N		TOC		O&G		Chlor.		Sulf.		Fec.		pH		α-ter.		benz.		p-cres		zn		pheno
	avg	max	avg	max	avg	max	avg	max	max	max	max	max	max	max	max	max	max	max	min	max	max	max	max	max	max	max	max	max	max
	report	report	30mg/	45mg/	50mg/	135mg	4.9mg	10mg/	50mg/	15mg/			250		250		200		6.0-9.0		0.033		0.12		0.025		0.2		0.026
Mar. 2007	No discharge																												
Apr. 2007	No discharge																												
May. 2007	No discharge																												
June. 2007	No discharge																												
July. 2007	No discharge																												
Aug. 2007	No discharge																												
Sept. 2007	No discharge																												
Oct. 2007	No discharge																												
Nov. 2007	No discharge																												
Dec. 2007	No discharge																												
Jan. 2008	No discharge																												
Feb. 2008	No discharge																												
Mar. 2008	No discharge																												
Apr. 2008	No discharge																												
May. 2008	No discharge																												
June. 2008	5E-04	6.4	7.3		30		1.23		43.2	ND	215	48.9	ND						9.3	ND	0.002	ND				0.35	ND		
July. 2008																													
Aug. 2008	0.011	0.033	10.3		39		1.11		46	ND	201	94	10	9.4															
Sept. 2008	0.022	0.164	5.5		71	100	0.691		42	ND	195	42.4	50	8.8	ND	ND	ND	0.015	ND										
Oct. 2008	No discharge																												
Nov. 2008	No discharge																												
Dec. 2008	0.015	0.042	8.52		33		1.64		37.8	ND	196	45.7	2200	7.63															
Jan. 2009	0.017	0.069	15.8		27		2.76		64.8	5.9	182	38.1	<5	7.17															
Feb. 2009	0.004	0.011	8.34		15		7.07		57	ND	185	62.9	<5	8.42															
Mar. 2009	0.007	0.049	12.1		68		0.998		58.5	5.2	264	62.5	<10	7.93															
April. 2009	0.001	0.008	15.6		64		1.21		61.5	11	166	54.7	<5	8.61															
May. 2009	0.002	0.007	ND		47		4.62		64.9	ND	194	39.9	13	8.46															
June. 2009	0.002	0.003	7.8		5.5		2.69		63.1	ND	276	51.5	550	8.28															

[illegible]

[illegible]

*Outfall was not installed until 11/1/08.

CWI White Oaks Landfill

LA0102750/AI 41194

	Flow		BOD5	TSS	Fecal Coliform		pH
	avg	max	max	max	avg	max	
	report	report	45 mg/l	45 mg/l	200	400	6.0-9.0
Mar, 2007	no discharge						
Apr, 2007	no discharge						
May, 2007	no discharge						
June, 2007	no discharge						
July, 2007	no discharge						
Aug, 2007	no discharge						
Sept, 2007	no discharge						
Oct, 2007	no discharge						
Nov, 2007	no discharge						
Dec, 2007	no discharge						
Jan, 2008	0.0005		51	13		5600	6.8
Feb, 2008	no discharge						
Mar, 2008	no discharge						
Apr, 2008	0.0005		5.8	27.7		536	6.6
May, 2008	0.0005		ND	11		ND	5.3
June, 2008	0.0005		42	13.3		>400	6.5
July, 2008	0.0005		14	18		160	6.7
Aug, 2008	0.0005		2.3	6		ND	6.7
Sept, 2008	0.0005		8.2	22.3		ND	6.5
Oct, 2008	0.0005		ND	84.7		ND	6.6
Nov, 2008	0.0005		ND	ND		<1	5.41
Dec, 2008	0.0005		ND	115		50	6.98
Jan, 2009	0.0005		ND	11		252	6.52
Feb, 2009	0.0005		136	77		<2	6.25
Mar, 2009	no discharge						
April, 2009	0.0005		ND	9		ND	6.98
May, 2009	0.0005		ND	76		ND	6.58
June, 2009	0.0005		ND	21		ND	6.61

Invoice No. _____

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**LOUISIANA WATER POLLUTION CONTROL FEE SYSTEM
RATING WORKSHEET
PERMIT NO: LA0102750; AI 41194; PER20080002**

1. a. Company Name: CWI-White Oaks Landfill, LLC
b. Facility Name: White Oaks Landfill
2. Local Mailing Address: P.O. Box 13355
Monroe, LA 71213
3. Billing Address (If different):
4. Facility Location: 588 Meadowlark Lane, near Millhaven Road, between I-20 and Kansas
City Southern Railroad
Ouachita
 - a. Parish:
5. Facility Type: privately owned Type I/II (municipal and industrial) non-hazardous solid
waste landfill
 - a. Treatment Process Used: biological treatment consisting of an equalization basin, a biological
reactor and a secondary clarifier and chlorinator.
6. Products Produced: treated landfill wastewater and treated sanitary wastewater
 - a. Raw materials stored or used:
 - b. By-products produced:
7. Primary SIC Code: 4953
 - a. Other SIC Codes:
8. Fac. Manager: Dale Stevener
 - a. Telephone: (318) 343-2026
9. Owner:
 - a. Telephone:
10. Env. Contact:
 - a. Telephone:

11. State Permit No.: LA0102750 a. Date Issued: b. New: Modified:	12. LPDES Permit No. LA0102750 a. Effective Date: April 1, 2004 b. Expiration Date: March 31, 2009
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13. Number and Identification of Outfalls: One, 001
14. Number of Injection Wells:
15. Water Source(s):
16. Receiving Water(s): unnamed ditch, thence into Interstate Highway 20 ditch, thence into Gourd Bayou

Is receiving water:

- a. Public Water Supply Yes () No (x)
- b. Designated Water Quality Limited Yes (x) No ()
- c. In Compliance with Water Quality Standards Yes () No (x)

17. River Basin: Ouachita River
18. Basin Segment No. 080904

Federal Tax I. D. No.:

Initials of Rater: AM

TOTAL RATING POINTS ASSIGNED 15.082

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ANNUAL FEE RATING WORKSHEET
PERMIT NO: LA0102750; AI 41194; PER20080002

1. FACILITY COMPLEXITY DESIGNATION

Primary SIC 4953

Complexity Designation = _____ I (0 points)
 _____ x II (10 points)
 _____ III (20 points)
 _____ IV (30 points)
 _____ V (40 points)
 _____ VI (50 points)

COMPLEXITY DESIGNATION POINTS 10

2. FLOW VOLUME AND TYPE

A. Wastewater Type I

Is total Daily Average Discharge greater than 60 mgd?

_____ Yes, then points = 200

_____ No, then

Points = 0.5 X Total Daily Average Discharge (mgd)

Points = 0.5 X _____ =

Total points =

B. Wastewater Type II

Is total Daily Average Discharge greater than 5 mgd?

_____ Yes, then points = 50

_____ No, then

Points = 10 X Total Daily Average Discharge (mgd)

Points = 10 X _____ =

Total points =

C. Wastewater Type III

Is total Daily Average Discharge greater than 25 mgd?

_____ Yes, then points = 50X No, then

Points = 2 X Total Daily Average Discharge (mgd)

Points = 2 X 0.041 =Total points = 0.082FLOW VOLUME AND TYPE POINTS 0.082

3. POLLUTANTS

A. BOD₅ or CBOD₅

Daily Average Load =

_____ 50 lb/day (0 points)
 _____ > 50 - 500 (5 points)
 _____ > 500 - 1000 (10 points)
 _____ > 1000 - 3000 (20 points)
 _____ > 3000 - 5000 (30 points)
 _____ > 5000 lb/day (40 points)

COD or

Daily Average Load =

_____ 100 lb/day (0 points)
 _____ > 100 - 500 (5 points)
 _____ > 500 - 1000 (10 points)
 _____ > 1000 - 5000 (20 points)
 _____ > 5000 - 10000 (30 points)
 _____ > 10000 lb/day (40 points)

BOD OR COD DEMAND POINTS _____
 (whichever is greater)